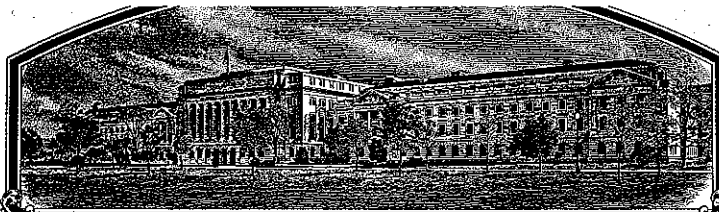


No.

200700256



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

West Bred, LLC

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY-REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'Waikea'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-third day of May, in the year two thousand and seven.

Attest:



[Signature]

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

[Signature]

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER WestBred, LLC		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME B3998-447W		3. VARIETY NAME Waieka														
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 81 Timberline Drive Bozeman, MT 59718		5. TELEPHONE (include area code) 406-587-1218		FOR OFFICIAL USE ONLY <hr/> PVPO NUMBER <div style="font-size: 2em; font-weight: bold;">#200700256</div> <hr/> FILING DATE <div style="font-size: 1.5em; font-weight: bold;">MARCH 30, 2007</div>														
6. FAX (include area code) 406-586-8247		7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Limited Liability Corporation																
8. IF INCORPORATED, GIVE STATE OF INCORPORATION Arizona		9. DATE OF INCORPORATION August 4, 2003		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td rowspan="4" style="width: 10%; text-align: center; vertical-align: middle;">F E E S R E C E I V E D</td> <td colspan="2">FILING AND EXAMINATION FEES:</td> </tr> <tr> <td>\$ 4,382.00</td> <td></td> </tr> <tr> <td>DATE 3/30/07</td> <td></td> </tr> <tr> <td colspan="2">CERTIFICATION FEE:</td> </tr> <tr> <td>\$ 768.00</td> <td></td> </tr> <tr> <td>DATE 4/27/07</td> <td></td> </tr> </table>		F E E S R E C E I V E D	FILING AND EXAMINATION FEES:		\$ 4,382.00		DATE 3/30/07		CERTIFICATION FEE:		\$ 768.00		DATE 4/27/07	
F E E S R E C E I V E D	FILING AND EXAMINATION FEES:																	
	\$ 4,382.00																	
	DATE 3/30/07																	
	CERTIFICATION FEE:																	
\$ 768.00																		
DATE 4/27/07																		
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Dr. Dale R. Clark 81 Timberline Drive Bozeman, MT 59718																		
11. TELEPHONE (Include area code) 406 587-1218	12. FAX (Include area code) 406-586-8247	13. E-MAIL dclark@westbred.com																
14. CROP KIND (Common Name) wheat	16. FAMILY NAME (Botanical) Poaceae	18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.																
15. GENUS AND SPECIES NAME OF CROP Triticum aestivum	17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 63(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (if "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (if "no", go to item 23)																
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Exhibit F. Declaration Regarding Deposit g. <input checked="" type="checkbox"/> Voucher Sample (3,000 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) h. <input checked="" type="checkbox"/> Filing and Examination Fee (\$4,382), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED 22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED <i>(If additional explanation is necessary, please use the space indicated on the reverse.)</i>																
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO USA April 15, 2007 2006 DEC IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. <i>(Please use space indicated on reverse.)</i>		24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. <i>(Please use space indicated on reverse.)</i>																
25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.																		
SIGNATURE OF OWNER Dale R. Clark for WestBred, LLC			SIGNATURE OF OWNER (Blank)															
NAME (Please print or type) Dale R. Clark			NAME (Please print or type) (Blank)															
CAPACITY OR TITLE Director of Research		DATE March 28, 2007		CAPACITY OR TITLE (Blank)														
DATE (Blank)		DATE (Blank)		DATE (Blank)														

(See reverse for instructions and information collection burden statement)

GENERAL INSTRUCTIONS: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E, F; (3) for a tuber reproduced variety, verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; and (4) payment by credit card or check drawn on a U.S. bank for \$4,382 (\$518 filing fee and \$3,864 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice). **NEW:** With the application for a seed reproduced variety or by direct deposit soon after filing, the applicant must provide at least 3,000 viable untreated seeds of the variety *per se*, and for a hybrid variety at least 3,000 untreated seeds of each line necessary to reproduce the variety. Partial applications will be held in the PVPO for not more than 90 days; then returned to the applicant as un-filed. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a payment by credit card or check payable to "Treasurer of the United States" in the amount of \$768 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

Plant Variety Protection Office
Telephone: (301) 504-5518 **FAX:** (301) 504-5291
General E-mail: PVPOmail@usda.gov
Homepage: <http://www.ams.usda.gov/science/pvpo/PVPindex.htm>

SPECIFIC INSTRUCTIONS:

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that the permanent name of the application variety (even if it is a parental, inbred line) has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: U.S. Department of Agriculture, Agricultural Marketing Service, Livestock and Seed Programs, **Seed Regulatory and Testing Branch**, 801 Summit Crossing Place, Suite C, Gastonia, North Carolina 28054-2193 Telephone: (704) 810-8870.
<http://www.ams.usda.gov/lsg/seed.htm>.

ITEM

- 19a. Give:
- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
 - (2) the details of subsequent stages of selection and multiplication;
 - (3) evidence of uniformity and stability; and
 - (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach replicated statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

24. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

“Waieka”
Hard White Spring Wheat

#200700256

16.a. Exhibit A. Origin and Breeding History

Waieka (Exp. # BZ 998-447W) is a hard white spring wheat that was developed by WestBred, LLC from the cross of “Spillman/WestBred 906R”. The cross was made near Bozeman, MT in 1994. The F1 seed were planted near Phoenix, AZ, in the fall of 1994, and the F2 seed harvested in May, 1995. The F2 seed was planted in May, 1995 near Bozeman, MT. Individual F2 heads were harvested in September 1995 and the F3 seed planted as individual 7' rows near Yuma, AZ in November, 1995. At this point, it was noted that some of the F2 heads had white seed and these were planted separately from the red seeded selections. Individual heads were harvested from agronomically acceptable rows in April, 1996 and the F4 seed was bulked to plant a single 5'x20' plot near Bozeman, MT in May, 1996. Individual heads were harvested from this population in September, 1996 and planted as F5 head rows near Bozeman, MT in May, 1997. Individual heads were selected from agronomically acceptable head rows in September, 1997 and planted as single F6 rows in May, 1998 near Bozeman, MT. The F6 head rows were observed for agronomic appearance and one of the rows was harvested and given the designation, BZ 998-447W. Grain from the F6 row and subsequent generations, F7-F12, was tested for bread making and noodle making quality by measuring test weight, percent protein, SDS sedimentation, poly phenol oxidase activity (PPO) and the five-gram mixogram, mix time and stability. Yield trials, along with quality analysis for hard white spring wheat, were conducted on the F7 thru F12 generations in WestBred, LLC, hard spring wheat trials across Montana, Idaho and Washington. Table 1 provides a quality evaluation of Waieka by the USDA Western Wheat Quality Lab at Pullman, WA. Tables 2 and 3 provide agronomic data from Washington State University Extension trials, and Table 4 provides agronomic data from Montana State University trial.

Eighty individual heads were harvested from an F9 plot in September 2001 and planted as head rows near Yuma, AZ in the fall of 2001. In late April of 2002, individual rows were harvested, and planted in May, 1999 near Bozeman, MT in long plots. Quality analysis (% protein, SDS sedimentation and PPO analysis) was performed on remnant seed from the Yuma harvest. Lines meeting the quality criteria were harvested in September 2002 and bulked to form 'Pre-Breeders'



WestBred, LLC, 81 Timberline Dr., Bozeman, MT 59718

“Waikea”
Hard White Spring Wheat

#200700256

seed. This seed was used to plant approximately 1 acre near Bozeman, MT in April, 2003. Seed from this field was harvested in August 2003 and designated ‘Breeders’ seed. Breeder’s seed was used to plant a 7 acre field near Moses Lake, WA in 2004. Foundation seed was harvested from this field. This seed was used to plant fields near Moses Lake, WA in April 2005 to produce Registered seed. Seed from these fields were harvested in August 2005 as Registered and Certified seed. The first unencumbered sale of Waikea occurred in April 15, 2006.

A variant that is similar to Waikea, but is 4 to 8 inches taller, occurs at a frequency of up to .08% (8 per 10,000 plants). Also, a red seed variant may occur at a frequency of up to 0.3% (30/10,000 seed). Otherwise, Waikea is a stable and uniform variety in appearance and performance across several generations (F7 to F12) and growing conditions.

The name Waikea is made up from two words in the Hawaiian language. ‘Wai’ is the word for river (as in Waialua) and ‘kea’ is the word for white (as in Mona Kea). So the name would mean ‘white river’, if there was such a river in Hawaii.

16.b. Exhibit B. Statement of Distinctness

Waikea is most similar to the variety WestBred 906R. However, Waikea is white seeded and WestBred 906R is red seeded.

The above comparison, along with the complete Objective Description (Exhibit C) shows Waikea to be a novel variety of hard white spring wheat.



“Waieka”
Hard White Spring Wheat

#200700256

Table 1. Quality evaluation, by the USDA Western Wheat Quality Lab, of Waieka compared to check varieties grown in Washington State University Extension trial, 2002, 2003, 2005.

<u>VARIETY</u>	<u>OVERALL</u>	<u>GRAIN</u>	<u>MILLING</u>	<u>BAKING</u>
WAIKEA	2.15	-0.37	4.59	1.22
MACON	1.50	-3.05	3.62	0.87
WINSOME	1.29	-3.22	3.92	0.42
OTIS	1.08	-2.21	3.69	0.14
PLATA	1.01	0.91	2.76	0.21
LOLO	0.86	-0.44	3.36	-0.19
BLANCA GRANDE	0.84	0.37	0.24	1.15
PRISTINE	0.48	2.45	6.98	-2.68
ID377S	0.00	0.00	0.00	0.00

Note; Student's *t* is calculated for each variety compared to the check variety 'ID377S'. Positive values of *t* indicate the test variety has a value greater than the check and negative values indicate that the test variety value is less than the check. A difference of approximately 2 is significant.

Table 2. Agronomic comparisons of Waieka to check varieties in the WSU Extension 2005 Hard White Spring Wheat Trial. Overall summary mean of 18 locations.

<u>VARIETY</u>	<u>Yield</u> bu/ac	<u>TW</u> lbs/bu	<u>Protein</u> %
WAIKEA	44.9	55.9	13.7
OTIS	39.1	57.3	14.2
BLANCA GRANDE	38.4	58.8	14.2
LOLO	38.1	57.5	14.0
ID377S	33.7	56.0	14.8
MACON	33.1	55.3	13.3
WINSOME	27.8	54.5	13.3
CV %	11.4	2.1	4.3
LSD @ .10	1.3	0.4	0.2



“Waikea”
Hard White Spring Wheat

#200700256

Table 3. Agronomic comparisons of Waikea to check varieties in the WSU Extension 2006 Hard White Spring Wheat Trial. Overall summary mean of 16 locations.

VARIETY NAME	YIELD (BU/A)	TEST WT. (LBS/BU)	PROTEIN (%)
LOLO	63.5	60.3	13.1
WAIKEA	62.2	58.2	13.2
OTIS	61.6	60.0	13.0
ALTA BLANCA	58.5	60.0	13.4
ID377S	57.4	59.3	13.6
MACON	56.4	58.3	12.7
BLANCA GRANDE	<u>51.5</u>	<u>61.8</u>	<u>13.7</u>
C.V.	8.6	1.4	3.5
LSD	1.7	0.3	0.2

Table 4. Agronomic comparisons of Waikea to check varieties in the 2003 Montana State University Intra State Spring Wheat Nursery, summary of 10 locations.

VARIETY	Heading Date Julian	Plant Ht inches	Test Wt lbs/bu	Protein %	Yield bu/ac
WAIKEA	173.4	31.4	56.3	15.8	61.2
REEDER	175.0	32.2	58.5	16.7	58.7
BLANCA GRANDE	171.2	26.5	60.1	15.6	58.4
PLATA	175.5	26.0	57.4	15.7	57.5
HANK	173.7	29.4	56.2	16.7	57.4
OUTLOOK	177.8	31.2	56.3	16.5	57.4
MCNEAL	177.4	31.2	57.0	16.5	56.0
MTHW9420	174.6	29.4	56.8	16.0	54.2
ERNEST	175.7	35.2	58.5	17.4	52.9
EXPLORER	172.3	29.5	57.9	16.6	52.3
CONAN	175.0	29.0	57.9	16.8	52.1
KNUDSON	176.1	30.4	59.0	16.5	52.0
FORTUNA	175.9	36.0	58.9	16.6	51.0
THATCHER	<u>179.0</u>	<u>38.4</u>	<u>54.8</u>	<u>17.6</u>	<u>44.1</u>
SITE MEAN *****	175.1	31.0	57.8	16.6	56.0
C.V. (S/MEAN %)	0.49	4.43	1.95	3.68	8.54
LSD (.05)	0.76	1.2	1.0	0.54	4.20



WestBred, LLC, 81 Timberline Dr., Bozeman, MT 59718

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY
Wheat (*Triticum* spp.)

NAME OF APPLICANT (S) West Bred, LLC	TEMPORARY OR EXPERIMENTAL DESIGNATION BZ998-447W	VARIETY NAME Waikua
ADDRESS (Street and No. or RD No., City, State, Zip Code and Country) 81 Timberline Drive Bozeman, MT 59718		FOR OFFICIAL USE ONLY PVPO NUMBER #200700256

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g., 0 9 9 or 0 9) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: _____ Please answer all questions for your variety; lack of response may delay progress of your application.

1. KIND:

1

- 1 = Common
2 = Durum
3 = Club
4 = Other (Specify) _____

2. VERNALIZATION:

1

- 1 = Spring
2 = Winter
3 = Other (Specify) _____

3. COLEOPTILE ANTHOCYANIN:

1

- 1 = Absent 2 = Present

4. JUVENILE PLANT GROWTH:

3

- 1 = Prostrate 2 = Semi-Erect 3 = Erect

5. PLANT COLOR: (boot stage)

2

- 1 = Yellow-Green
2 = Green
3 = Blue-Green

6. FLAG LEAF: (boot stage)

2

- 1 = Erect 2 = Recurved
1 = Not Twisted 2 = Twisted
1 = Wax Absent 2 = Wax Present

7. EAR EMERGENCE:

063

Number of Days (Average)

03

Number of Days Earlier Than

* Knudson

Same As

* Hank

Number of Days Later Than

*Relative to a PVPO-Approved Commercial Variety Grown in the Same Trial

8. ANTHOR COLOR:

1

- 1 = Yellow 2 = Purple

9. PLANT HEIGHT: (from soil to top of head, excluding awns)

080

cm (Average)

05

cm Taller Than

Hank

Same As

McNeal

cm Shorter Than

#200700256

10. STEM:

A. ANTHOCYANIN

1

1 = Absent 2 = Present

B. WAXY BLOOM

2

1 = Absent 2 = Present

C. HAIRINESS (last internode of rachis)

2

1 = Absent 2 = Present

D. INTERNODE

1

1 = Hollow

2 = Semi-Solid

3 = Solid

4

Number of Nodes

E. PEDUNCLE

1

1 = Erect

2 = Recurved

3 = Semi-Erect

35

cm Length

F. AURICLE

1

Anthocyanin:

1 = Absent

2 = Present

2

Hair:

1 = Absent

2 = Present

11. HEAD: (At Maturity)

A. DENSITY

2

1 = Lax

2 = Middense (Laxidense)

3 = Dense

B. SHAPE

2

1 = Tapering

2 = Strap

3 = Clavate

4 = Other (Specify)

C. CURVATURE

2

1 = Erect

2 = Inclined

3 = Recurved

D. AWNEDNESS

4

1 = Awnless

2 = Apically Awnletted

3 = Awnletted

4 = Awned

12. GLUMES: (At Maturity)

A. COLOR

1

1 = White

2 = Tan

3 = Other (Specify)

B. SHOULDER

5

1 = Wanting

2 = Oblique

3 = Rounded

4 = Square

5 = Elevated

6 = Apiculate

7 = Other (Specify)

C. SHOULDER WIDTH

2

1 = Narrow

2 = Medium

3 = Wide

D. BEAK

3

1 = Obtuse

2 = Acute

3 = Acuminate

E. BEAK WIDTH

2

1 = Narrow

2 = Medium

3 = Wide

F. GLUME LENGTH

3

1 = Short (ca. 7 mm)

2 = Medium (ca. 8 mm)

3 = Long (ca. 9 mm)

G. WIDTH

3

1 = Narrow (ca. 3 mm)

2 = Medium (ca. 3.5 mm)

3 = Wide (ca. 4 mm)

H. PUBESCENCE

1

1 = Not Present

2 = Present

13. SEED:

A. SHAPE

- ☐ 1 = Ovate
☐ 2 = Oval
☐ 3 = Elliptical

B. CHEEK

- ☐ 1 = Rounded
☐ 2 = Angular

C. BRUSH

- ☐ 1 = Short
☐ 2 = Medium
☐ 3 = Long
- ☐ 1 = Not Collared
☐ 2 = Collared

D. CREASE

- ☐ 1 = Width 60% or less of Kernel
☐ 2 = Width 80% or less of Kernel
☐ 3 = Width Nearly as Wide as Kernel

- ☐ 1 = Depth 20% or less of Kernel
☐ 2 = Depth 35% or less of Kernel
☐ 3 = Depth 50% or less of Kernel

E. COLOR

- ☐ 1 = White
☐ 2 = Amber
☐ 3 = Red
☐ 4 = Other (Specify) _____

F. TEXTURE

- ☐ 1 = Hard
☐ 2 = Soft
☐ 3 = Other (Specify) _____

G. PHENOL REACTION (See Instructions)

- ☐ 1 = Ivory
☐ 2 = Fawn
☐ 3 = Light Brown
☐ 4 = Dark Brown
☐ 5 = Black

H. SEED WEIGHT

- ☐ ☐ g/1000 Seed (whole number only)

I. GERM SIZE

- ☐ 1 = Small
☐ 2 = Midsize
☐ 3 = Large

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14. DISEASE: PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

(0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)

- | | |
|---|---|
| <input type="checkbox"/> Stem Rust (<i>Puccinia graminis</i> f. sp. <i>tritici</i>) | <input type="checkbox"/> Leaf Rust (<i>Puccinia recondita</i> f. sp. <i>tritici</i>) |
| <input type="checkbox"/> Stripe Rust (<i>Puccinia striiformis</i>) | <input type="checkbox"/> Loose Smut (<i>Ustilago tritici</i>) |
| <input type="checkbox"/> Tan Spot (<i>Pyrenophora tritici-repentis</i>) | <input type="checkbox"/> Flag Smut (<i>Urocystis agropyri</i>) |
| <input type="checkbox"/> Halo Spot (<i>Selenophoma donacis</i>) | <input type="checkbox"/> Common Bunt (<i>Tilletia tritici</i> or <i>T. laevis</i>) |
| <input type="checkbox"/> Septoria nodorum (Glume Blotch) | <input type="checkbox"/> Dwarf Bunt (<i>Tilletia controversa</i>) |
| <input type="checkbox"/> Septoria avenae (Speckled Leaf Disease) | <input type="checkbox"/> Karnal Bunt (<i>Tilletia indica</i>) |
| <input type="checkbox"/> Septoria tritici (Speckled Leaf Blotch) | <input type="checkbox"/> Powdery Mildew (<i>Erysiphe graminis</i> f. sp. <i>tritici</i>) |
| <input type="checkbox"/> Scab (<i>Fusarium</i> spp.) | <input type="checkbox"/> "Snow Molds" |
| <input type="checkbox"/> "Black Point" (Kernel Smudge) | <input type="checkbox"/> Common Root Rot (<i>Fusarium</i> , <i>Cochliobolus</i> and <i>Bipolaris</i> spp.) |
| <input type="checkbox"/> Barley Yellow Dwarf Virus (BYDV) | <input type="checkbox"/> Rhizoctonia Root Rot (<i>Rhizoctonia solani</i>) |
| <input type="checkbox"/> Soilborne Mosaic Virus (SBMV) | <input type="checkbox"/> Black Chaff (<i>Xanthomonas campestris</i> pv. <i>translucens</i>) |
| <input type="checkbox"/> Wheat Yellow (Spindle Streak) Mosaic Virus | <input type="checkbox"/> Bacterial Leaf Blight (<i>Pseudomonas syringae</i> pv. <i>syringae</i>) |
| <input type="checkbox"/> Wheat Streak Mosaic Virus (WSMV) | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> Other (Specify) _____ | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> Other (Specify) _____ | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> Other (Specify) _____ | <input type="checkbox"/> Other (Specify) _____ |

15. INSECT: (0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)

PLEASE SPECIFY BIOTYPE (where needed)

- | | |
|--|--|
| <input type="checkbox"/> Hessian Fly (<i>Mayetiola destructor</i>) | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> Stem Sawfly (<i>Cephus</i> spp.) | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> Cereal Leaf Beetle (<i>Oulema melanopa</i>) | <input type="checkbox"/> Other (Specify) _____ |

waikēa

15. INSECT: (continued) (0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)

PLEASE SPECIFY BIOTYPE (Where Needed)

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- | | |
|---|--|
| <input type="checkbox"/> Russian Aphid (<i>Diuraphis noxia</i>) | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> Greenbug (<i>Schizaphis graminum</i>) | <input type="checkbox"/> Other (Specify) _____ |
| <input type="checkbox"/> Aphids | <input type="checkbox"/> Other (Specify) _____ |

16. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS:

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

**EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S) WestBred, LLC	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER BZ 998-447W	3. VARIETY NAME Waitea
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 81 Timberline Drive Bozeman, MT 59718	5. TELEPHONE (Include area code) (406) 587-1218	6. FAX (Include area code) (406) 586-8247
7. PVPO NUMBER #200700256		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☒ YES ☐ NO

10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

REPRODUCE LOCALLY. Include form number and date on all reproductions.

Form Approved OMB NO 0581-0055

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT F
DECLARATION REGARDING DEPOSIT

NAME OF OWNER (S) WestBred, LLC	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 81 Timberline Drive Bozeman, MT 59718	TEMPORARY OR EXPERIMENTAL DESIGNATION BZ 998-447 W VARIETY NAME Waikae
NAME OF OWNER REPRESENTATIVE (S) Dr. Dale R. Clark	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 81 Timberline Drive Bozeman, MT 59718	FOR OFFICIAL USE ONLY PVPO NUMBER #200700256

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.

Dale R. Clark
Signature

March 28, 2007
Date